

Algebra 2 Bellwork Tuesday, March 31, 2015

Simplify each. Write your answers so that no exponents are zero or negative.

1. $\frac{3^{-2}w^5z^{-6}}{6v^0w^{-4}x^7}$

2. $\left(\frac{5c^{-4}d^5}{15c^{-2}d^{-7}}\right)^{-2}$

3. $(3j^{-2}k^4)^3(5j^3k^{-7})^2$

Simplify each radical expression.

4. $\sqrt{128}$

5. $5\sqrt{80}$

6. $\sqrt[3]{40}$

7. $7\sqrt{10}(4-2\sqrt{10})$

8. $9\sqrt{3} + 7\sqrt{2} - \sqrt{3} + 5\sqrt{2}$

9. $2\sqrt{48} - 4\sqrt{27} + \sqrt{75}$

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$= \frac{w^9}{3^2 \cdot 6 \cdot z^6 x^7} = \boxed{\frac{w^9}{54x^7z^6}}$

$= \left(\frac{d^{12}}{3c^2}\right)^{-2} = \boxed{\frac{9c^4}{d^{24}}}$

$= (27j^{-6}k^{12})(25j^6k^{-14})$
 $\boxed{\frac{675}{k^2}}$

Simplify each radical expression.

4. $\sqrt{128} = \sqrt{64 \cdot 2}$

$\boxed{8\sqrt{2}}$

5. $5\sqrt{80} = 5\sqrt{16 \cdot 5}$

$\boxed{20\sqrt{5}}$

6. $\sqrt[3]{40} = \sqrt[3]{8 \cdot 5}$

$\boxed{2\sqrt[3]{5}}$

7. $7\sqrt{10}(4-2\sqrt{10})$

$\boxed{28\sqrt{10} - 140}$

8. $9\sqrt{3} + 7\sqrt{2} - \sqrt{3} + 5\sqrt{2}$

$\boxed{8\sqrt{3} + 12\sqrt{2}}$

9. $2\sqrt{48} - 4\sqrt{27} + \sqrt{75}$

$2\sqrt{16 \cdot 3} - 4\sqrt{9 \cdot 3} + \sqrt{25 \cdot 3}$

$8\sqrt{3} - 12\sqrt{3} + 5\sqrt{3}$

$\boxed{\sqrt{3}}$